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Application Number	10/721,075
Filing Date	November 26, 2003
First Named Inventor	Koichiro TANAKA
Group Art Unit	1725
Examiner Name	M. Elve
Attorney Docket Number	0756-7223

ENCLOSURES (check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Declaration and Power of Attorney <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosures 1. 2. 3. 4. 5. 6.
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Remarks

The Commissioner is hereby authorized to charge any additional fees required or credit any overpayments to Deposit Account No. 50-2280 for the above identified docket number.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Eric J. Robinson, Reg. No. 38,285 Robinson Intellectual Property Law Office, P.C. PMB 955 21010 Southbank Street Potomac Falls, VA 20165
Signature	
Date	9-29-05

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Attorney Docket No. 0756-7223

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Koichiro TANAKA

Serial No. 10/721,075

Filed: November 26, 2003

For: LASER IRRADIATION APPARATUS,
LASER IRRADIATION METHOD,
AND METHOD FOR
MANUFACTURING A
SEMICONDUCTOR DEVICE

) Group Art Unit: 1725

) Examiner: M. Elve

) CERTIFICATE OF MAILING
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9-29-05

Adrian M. Stumper

RESPONSE

Honorable Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The Official Action mailed June 29, 2005, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Accordingly, the Applicant respectfully submits that this response is being timely filed.

The Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on November 26, 2003, January 8, 2004, January 20, 2004, and February 3, 2004. A further Information Disclosure Statement is submitted herewith and consideration of this Information Disclosure Statement is respectfully requested.

The Applicant's representative and Examiner Elve conducted a telephone conversation on July 14, 2005, and agreement was reached that Examiner Elve would issue a corrected PTO Form 892 in order to correct a minor typographical error, i.e. the Form 892 would be corrected to cite JP 04-124813 to Ogawa et al. instead of JP 04-

24813 to Kanda et al. The Applicant respectfully requests that the corrected PTO Form 892 be issued in a subsequent response.

Claims 1-54 are pending in the present application, of which claims 1, 10, 19, 28, 37 and 46 are independent. The Applicants note with appreciation the indication of the allowability of dependent claims 8, 9, 17, 18, 26, 27, 35, 36, 44, 45, 53 and 54 (page 5, Paper No. 20050623). For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

The Official Action rejects independent claims 1, 10, 19, 28, 37 and 46 as obvious based on the combination of JP 04-124813 to Ogawa et al. and U.S. Patent No. 6,242,292 to Yamazaki et al. The Applicants respectfully traverse the rejection because the Official Action has not made a *prima facie* case of obviousness.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims. Independent claims 1 and 10 recite means for controlling a relative position of a beam spot of a second laser beam to overlap with a beam spot of a first laser beam. Independent claims 19, 28, 37 and 46 recite that when a first laser beam and a second laser beam are irradiated, a beam spot formed on a surface of a processing object by the first laser beam and a beam spot formed on a surface of the processing object by the second laser beam are overlapped.

The Official Action asserts that "Ogawa et al. discloses method and apparatus for manufacturing a semiconductor device" which "is irradiated with continuous wave and pulsed lasers" (page 2, Paper No. 20050623). The Official Action concedes that "Ogawa et al. does not teach the exact order of operations, absorption or the overlap of the laser beams" (Id.). The Official Action relies on Yamazaki '292 to allegedly cure the deficiencies in Ogawa. Specifically, the Official Action asserts the following:

Yamazaki et al. ('292) discloses producing a semiconductor device using laser beams to anneal and crystallize the substrate. Preliminary irradiation is conducted because the absorptance of laser energy is different for single crystal and polycrystalline materials. Thus amorphous silicon is transformed and then the entire substrate is subjected to annealing. ... The irradiation is a two stage process and there is overlap of two laser beams. [pages 2-3, Id.]

However, Ogawa and Yamazaki '292, either alone or in combination, do not teach or suggest means for controlling a relative position of a beam spot of a second laser beam to overlap with a beam spot of a first laser beam; or that when a first laser beam and a second laser beam are irradiated, a beam spot formed on a surface of a processing object by the first laser beam and a beam spot formed on a surface of the processing object by the second laser beam are overlapped.

In addition, although Yamazaki '292 appears to disclose that a weaker pulse laser light (preliminary irradiation) is preliminarily irradiated before irradiation of an intense pulse laser light (main irradiation) (column 2, lines 36-44), Yamazaki '292 does not teach that a beam spot of a preliminary irradiation is overlapped with a beam spot of a main irradiation. Since, as conceded by the Official Action, Ogawa also does not

teach the overlap of the laser beams, then Ogawa and Yamazaki '292, either alone or in combination, do not teach or suggest that when a first laser beam and a second laser beam are irradiated, a beam spot formed on a surface of a processing object by the first laser beam and a beam spot formed on a surface of the processing object by the second laser beam are overlapped.

Since Ogawa and Yamazaki '292 do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

The Official Action rejects claims 2, 3, 6, 7, 11, 12, 15, 16, 20, 21, 29, 30, 33, 34, 38, 39, 42, 43, 47, 48, 51 and 52 as obvious based on the combination of Ogawa, Yamazaki '292 and U.S. Patent No. 5,953,597 to Kusumoto et al. The Official Action rejects claims 4, 5, 13, 14, 22-25, 31, 32, 40, 41, 49 and 50 as obvious based on the combination of Ogawa, Yamazaki '292 and U.S. Patent No. 6,156,997 to Yamazaki et al.

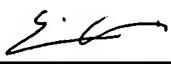
Please incorporate the arguments above with respect to the deficiencies in Ogawa and Yamazaki '292. Kusumoto and Yamazaki '997 do not cure the deficiencies in Ogawa and Yamazaki '292. The Official Action relies on Kusumoto to allegedly teach use of "various lasers and different harmonics" (pages 3-4, Paper No. 20050623) and on Yamazaki '997 to allegedly teach use of "different beam spot shapes" (page 4, *Id.*). However, Ogawa, Yamazaki '292, Kusumoto and Yamazaki '997, either alone or in combination, do not teach or suggest means for controlling a relative position of a beam spot of a second laser beam to overlap with a beam spot of a first laser beam; or that when a first laser beam and a second laser beam are irradiated, a beam spot formed on a surface of a processing object by the first laser beam and a beam spot formed on a surface of the processing object by the second laser beam are overlapped.

Since Ogawa, Yamazaki '292, Kusumoto and Yamazaki '997 do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be

maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,


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